

REMARKS

Claims 29-35 and 37-56 are now in the application. By this Amendment, claims 34 and 37 have been amended to recite a polyalkylene glycol monoallyl ether having a number-average molecular weight in the range from 300 to 5000 in place of a polyether which comprises a group reactive toward isocyanate groups, and an allyl group. Support for the amendments to claims 34 and 37 is found at least at page 4, lines 18-24, of the specification. No new matter has been added.

Claims 29-32 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Carter et al. (US 3,042,725) in view of Bader et al. (US 3,714,265).

Claim 29 recites, among other features, that in a first stage the compounds a), optionally at least one of the compounds b) and at least one of the polyisocyanates c) are reacted without the addition of a solvent, at a temperature of at least 60°C and at a ratio of isocyanate group equivalents to equivalents of groups reactive toward isocyanate groups in a range from 1.5:1 to 2.2:1, to give an isocyanate group-comprising prepolymer.

The Office Action asserts that it would have been obvious to utilize a ratio of two NCO groups for every OH group because Carter suggests, at col. 1, lines 49-72, that a terminally unsaturated polyol is reacted with an organic diisocyanate. However, the indicated passage in Carter is directed to a reaction between non-polymeric glycols, such as 2-vinyl-1,3-propanediol, and an organic diisocyanate. Accordingly, Carter suggests at the indicated passage a polymer in which an allyl-group is bound through a urethane-linker to a polymeric glycol. Therefore, the polymers described at col. 1, lines 49-72, are structurally different from a polyether-urethane according to claim 29 in which an allyl group comprising polyether is reacted with isocyanate.

Further, while Carter suggests that diols are reacted with a molar excess of diisocyanates, there is no indication that the ratio is anywhere close to the range recited in claim 29 because Carter suggests, at col. 1, line 67, that sufficient non-polymeric glycol is added to react with any free organic diisocyanate. In addition, Carter, at col. 2, lines 6-8, teaches away from the claimed

range because the highly branched polyethers used reduce the overall amount of isocyanate required.

The Office Action relies on Bader for suggesting that the synthesis of polyalkylene glycols may be performed in the absence of solvent and at temperatures of at least 60 °C. However, Bader fails to cure the deficiencies of Carter as discussed above.

In addition, the Office Action asserts that the alkylene oxide adducts suggested in Carter could be reacted according to the method suggested in Bader. However, using the alkylene oxide adducts of Carter instead of the divinyl compounds of Bader would render Bader unsatisfactory for its intended purpose. Specifically, Bader suggests, at col. 1, lines 11-27, that the divinyl-1,2 ethylene-dioxy structural group confers the desirable properties on products derived therefrom. Thus, replacing the divinyl compounds of Bader with the alkylene oxide adducts of Carter would render Bader unsuitable for its intended purpose because the adducts of Carter do not comprise the ethylene-dioxy structural group. As set forth in MPEP §2143.01 V, the proposed modification cannot render the prior art unsatisfactory for its intended purpose. Specifically, if the proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984). Thus, Carter may not be modified by Bader as proposed in the Office Action and the rejections necessarily fail.

Claims 29-35, 37-44, 46, and 49-56 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Carter et al. in view of Bader et al. and further in view of Kim et al. (WO 99/58100, as evidenced by US 6,579,517). Claims 45, 47, and 48 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Carter et al. in view of Bader et al. and further in view of Kim and Dieing et al. (WO 00/49998, as evidenced by US 6,964,774).

The application of Carter in view of Bader with respect to independent claim 29 fails for the reasons set forth above. Kim and Dieing are not applied in a manner to cure the deficiencies of Carter and Bader with respect to claim 29.

Claims 34 and 37, as amended, recite a polyalkylene glycol monoallyl ether having a number-average molecular weight in the range from 300 to 5000. At least this feature cannot reasonably be considered to be suggested by the applied citations.

Carter suggests the preparation of alkylene oxide adducts having the general formula depicted at col. 2, lines 51-54. However, these alkylene oxide adducts are not polyethers with a terminal allyl group. Instead, the terminal unsaturated group comprises a moiety having the structure $\text{CH}_2=\text{CH}-(\text{CH}_2)_m-\text{C}(\text{R}_{3-n})-\text{CH}_2-$ with $m = 0-10$. Only then follows the first oxygen atom. Thus, with $m = 0$ and $n = 3$, the alkylene oxide adduct of Carter has an additional methylene group between the allyl moiety and the polyether moiety. For values of m larger than 0 the allyl moiety and the polyether moiety are even further apart.

Bader suggests polyalkylene glycol derivatives of divinyl glycol, i.e., compounds having two allyl groups. Bader fails to suggest a polyalkylene glycol monoallyl ether, as recited in claims 34 and 37. Thus, Carter and Bader, alone or in combination, fail to suggest the combination of all of the features of claims 34 and 37.

The Office Action relies on Diening for suggesting a cross-linked polyurethane and relies on Kim for suggesting polysiloxane. However, Diening and Kim are not applied in a manner to cure the deficiencies of Carter and Bader with respect to independent claims 34 and 37, as discussed above.

In view of the above amendment, Applicants believes the pending application is in condition for allowance.

Applicants concurrently herewith submit the requisite fee for a Petition for a three-month Extension of Time. Applicants believe no additional fee is due with this response. However, if an additional fee is due, please charge our Deposit Account No. 22-0185, under Order No. 13111-00022-US from which the undersigned is authorized to draw.

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Respectfully submitted,

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